

Time Allowed: 3 Hrs

Marks: 75

Note: There are **Three Sections** in this paper i.e. A, B and C. Attempt Section A and return it to the Superintendent within the given time. No marks will be awarded for **Cutting, Erasing and Overwriting.**

Mobile Phone is strictly prohibited in Examination Hall.

Time: 20 Minutes

SECTION "A"

Marks: 15

Q.1. Choose the correct option and shade one of (A, B, C, D) in the given **Bubble Answer Sheet**.

- i. The order of the matrix $\begin{bmatrix} 1 & 5 & 0 & 7 \\ 3 & 2 & 4 & 0 \\ 7 & 0 & 5 & 1 \end{bmatrix}$ is:
- (A) 4×2 (B) 3×4 (C) 4×3 (D) 2×4
- ii. The matrix $\begin{bmatrix} 2 & 0 & 0 \\ 0 & 3 & 0 \\ 0 & 0 & 4 \end{bmatrix}$ is an example of a:
- (A) Diagonal Matrix (B) Scalar Matrix (C) Row Matrix (D) Column Matrix
- iii. The determinant of the Matrix $\begin{bmatrix} 7 & -5 \\ 8 & -6 \end{bmatrix}$ is:
- (A) 2 (B) -2 (C) 16 (D) -16
- iv. The property used in the equation $-5 + 5 = 5 + (-5) = 0$ is:
- (A) Associative (B) Multiplicative Inverse (C) Distributive (D) Additive Inverse
- v. If $x = y$ then $\frac{2x}{3} = \frac{2y}{3}$, the property used is:
- (A) Multiplicative (B) Reflective (C) Transitive (D) Additive
- vi. The decimal representation of $\frac{17}{13}$ is:
- (A) 1.307692 (B) 1.306792 (C) 1.308692 (D) 1.317692
- vii. Radical form of the expression $4a^{\frac{2}{3}}$ is:
- (A) $2^3\sqrt{a^2}$ (B) $2\sqrt{a^3}$ (C) $4^3\sqrt{a^2}$ (D) $2\sqrt[3]{a^2}$
- viii. The simplified form of the expression $\frac{a^2 \times b^5}{a^3 \times b^3}$ is:
- (A) $\frac{b^2}{a}$ (B) $\frac{b}{a^2}$ (C) ab^2 (D) $\frac{b^3}{a}$
- ix. Conjugate of the complex number $-\sqrt{3} + 3i$ is:
- (A) $-\sqrt{3} - 3i$ (B) $\sqrt{3} - 3i$ (C) $\sqrt{-3} - 3i$ (D) $\sqrt{3} + 3i$
- x. If $\log_2 128 = x$ then the value of x is:
- (A) 8 (B) 7 (C) 6 (D) 5
- xi. The value of the algebraic expression $\frac{2x^2 - 12}{2x}$ at $x = 2$ is:
- (A) 4 (B) 2 (C) -1 (D) 0
- xii. One of the Factor of the expression $x^2 - 8x + 15$ is:
- (A) $x - 2$ (B) $x + 2$ (C) $x - 3$ (D) $x + 3$
- xiii. The HCF of the algebraic expressions $4x^3 - 8x^2$ and $x - 2$ is:
- (A) $4x$ (B) $4x^3 - 8x^2$ (C) $x - 2$ (D) $4x^2 - 8$
- xiv. The linear equation $\frac{7x}{2} - x = 2$ is true for the value of x :
- (A) $\frac{4}{5}$ (B) $\frac{2}{7}$ (C) $\frac{4}{7}$ (D) $\frac{3}{5}$
- xv. The point $(-1, 3)$ lies on the line having equation:
- (A) $y = 4x + 1$ (B) $y = x + 1$ (C) $y = -x + 2$ (D) $2y = 3x + 2$